Welcome to AP Calculus BC!

Liberty High School

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Introduction to AP Calculus:

AP Calculus is a rigorous course in which we will be covering all topics included on the AP Calculus BC Course Exam (more information at http://apstudent.collegeboard.org/apcourse/ap-calculus-bc). This course will cover concepts of Calculus AB and the additional topics of Calculus BC, therefore we will have a very busy year! The major textbook is the 6th edition of *Larson Calculus of a Single Variable*. My goal is to prepare you to do well on the AP exam, but also to become better problem solvers, critical thinkers and further develop your study skills. All of these are crucial for the transition into college.

All students are expected to take the AP exam at the end of the year. The cost was $95.00 for the 2017 exam. The AP exams are graded on a scale from 1 to 5. A score of 3 (qualified) *may or may not* earn you credit at colleges you are interested in. (UNLV requires a minimum score of 4). It is your responsibility to check with a particular college of interest to see what score you will need to be given credit. The AP Calculus BC exam will give you an AP Calculus AB sub-score, which may give you credit for Calculus 1 at your college of interest. You will also receive an AP Calculus BC score, which may give you credit for Calculus 2 at your college of interest. Some colleges and programs may require you to re-take Calculus 1 and 2. The exposure here will be helpful, but you never know what topic your college/schools will want you to know.

We will be using graphing calculators in this course and you can use graphing calculators on parts of the AP Exam. The calculator I use and recommend is the TI-89, which I will also be checking out to students, if they are unable to acquire one. The other calculator I recommend is the TI-Nspire Cas.

Summer Homework:

In order to get through all of the material by May, you have been assigned a summer assignment. In this assignment you will be reviewing concepts from previous math course, practicing graphing using your calculator, and introducing yourself to the course material.

The summer assignment will count for a major portion of your quarter homework grade; therefore, this is *not* an optional assignment. Your summer assignment will be due the first day of class, August 13, 2018.

I suggest you complete the assignment in parts over the summer to avoid cramming the entire assignment until August. All of these topics were chosen to help students review and prepare over the summer, as well as familiarize you with the AP exam. Students are encouraged to work together, but any final work must be that of the individual student. You are encouraged to review and use your notes from previous math courses to help with the assignment.

If you have any questions, you can contact me over the summer at dodgekj@nv.ccsd.net. I will try to check this email every few days. Please send me a brief e-mail introducing yourself using your **school email**. This way I have a way of contacting you and I will be able to add you to the google classroom.

I am looking forward to an exciting year in AP Calculus BC next year and getting to know all of you!

Have a great summer and I will see you in the fall,

Kate Mbariket

Summer Homework: Kahn Academy

1. Go to kahanacademy.com
2. Create an account with your school e-mail address.
3. Once you log-in, you will see your name in the upper right corner. Click on the arrow next to your name. Click on "Profile."

4. Your Dashboard will now be open. Click on "Coaches."

5. Under "Join A Class," enter the AP Calculus BC 2018-2019 code: **A9FEE959**.

6. You will now be part of the course and Ms. Mbariket can assign you the following skills to practice. Once the skills are assigned you will see an "Assignments" tab appear.
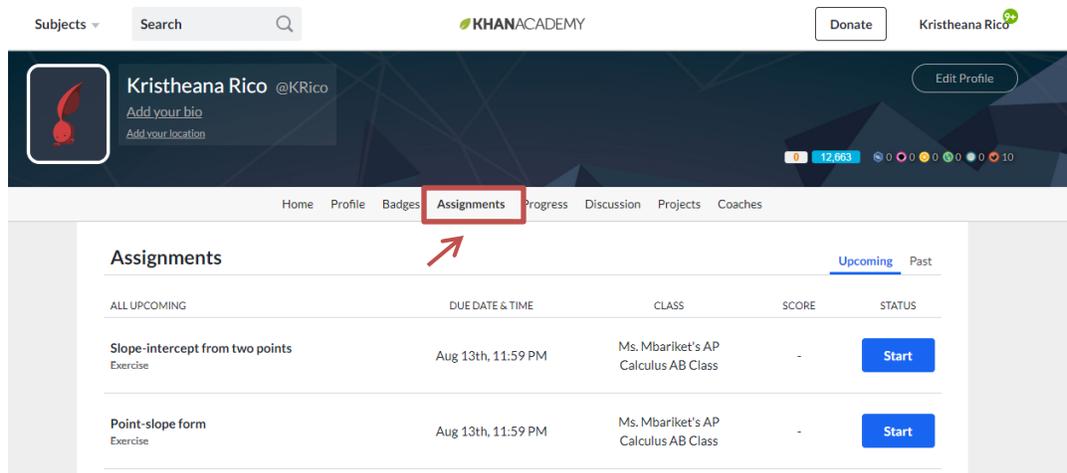
It is suggested that you practice the skills in this order; they may not be in this order on your screen. This is the most logical order. There are 34 skills you must practice.

	Skill To Practice	Problem Set	✓
1.	Limits from graphs	7	
2.	One-sided limits from graphs	4	
3.	Connecting limits and graphical behavior	4	
4.	Continuity at a point	3	
5.	Continuity over an interval	4	
6.	Limits of combined functions	4	
7.	Limits of composite functions	4	
8.	Direct substitution	4	
9.	Limits by factoring	4	
10.	Limits of trigonometric functions	4	
11.	Squeeze theorem	4	
12.	Classify discontinuities	4	
13.	Analyzing functions for discontinuities: algebraic	4	
14.	Strategy in finding limits	4	
15.	Derivative as slope of curve	4	
16.	Derivative & the direction of a function	3	
17.	Secant lines & average rate of change	4	
18.	Estimate derivatives	4	
19.	Derivative as a limit	4	
20.	Differentiability at a point: algebraic	4	
21.	The derivative & tangent line equations	4	
22.	Approximation with local linearity	3	
23.	Basic derivative rules: table	4	
24.	Differentiate polynomials	4	
25.	Tangents of polynomials	4	
26.	Negative powers differentiation	4	
27.	Fractional powers differentiation	4	
28.	Radical functions differentiation intro	4	
29.	Derivatives of sin(x) and cos(x)	4	
30.	Differentiate products	4	
31.	Differentiate quotients	4	
32.	Differentiate rational functions	4	
33.	Differentiate composite functions (chain rule)	4	
34.	Manipulating functions before differentiation	4	

You are not limited to only practicing these skills. You are welcome to practice additional Calculus skills as well. These will be the skills I will check in August.

7. For each skill, you will complete the exercises indicated in the "Assignments" tab (see 6). To start the assignment simply click on the "Start" tab to the right of each skill. For the exercises, you can get a hint by clicking the "Stuck? Watch a video or use a Hint" near the bottom of the question. If this is a new topic or concept for you, I suggest you watch the videos and tutorials before the exercises indicated by an arrow on the timeline on the left-side of the screen.

When you click on "Stuck? What a video or use a Hint" a video option and Hint option will occur. Choose the best option for you.

8. As you complete the assignments your score will show in your "Assignments" tab. All assignments must be 100% by **August 13, 2018!**